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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/730,783	12/07/2000	Sang Jin Oh	2832-0118P	8908

2292 7590 11/06/2002

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EXAMINER

OLSEN, ALLAN W

ART UNIT	PAPER NUMBER
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1763

3

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

723

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/730,783	OH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Allan W. Olsen	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 December 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,709,598 issued to Nishio et al. (hereinafter, Nishio) in view of U.S. Patent 5,021,120 issued to Buck et al. (hereinafter, Buck).**

Nishio teaches a method of forming a patterned abrasive tape. The abrasive tape becomes patterned because it is fabricated upon a patterned forming roll (roll punch). Nishio patterns the forming roll by applying a photoresist and patterning the resist to form an etching mask and then etching the underlying roll. Nishio teaches removing the photoresist etching mask before using the patterned roll for its intended

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purpose. Nishio teaches forming recesses with vertical sidewalls. See: column 5, lines 20-32; column 6, lines 24-30 and 45-53; column 7, lines 20-53; column 8, lines 1-10.

Nishio does not teach removing the masking layer with a cutting bite.

It would have been obvious for one skilled in the art to use a cutting bite to pattern the etching mask for the following reasons. Nishio teaches a variety of methods by which the forming roll can be patterned. The methods include physical or mechanical removal means as well as chemical etching. Nishio does not discuss at length the particular aspects of those processes that are generally well known. For example, Nishio does not address the fact that the use of an etching method to pattern the forming roll would require the use of a patterned etching mask. It would then be obvious to create the pattern in the etching mask by one of the patterning methods disclosed by Nishio, for example, engraving or machining on a lathe.

Nishio does not teach the use of ultrasound while etching the exposed portions of the forming roll.

Buck teaches the use of ultrasound while etching the exposed portions of a substrate.

It would have been obvious for one skilled in the art to use ultrasound while etching the exposed portions of Nishio's forming roll because Buck teaches that the application of ultrasound prevents the formation of localized regions of low etchant concentration and thereby provides a highly uniform etching process (column 1, line 17-column 2, line 3).

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**Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio and Buck as applied to claim 1 above and further in view of U.S. Patent 5,182,188 issued to Cole, Jr. et al. (hereinafter, Cole).**

The combination of Nishio and Buck do not teach the use of a laser beam for the step of partially removing the etching mask.

Cole teaches the use of a laser beam to partially remove an etching mask (column 3, line 58).

It would have been obvious for one skilled in the art to use a laser beam to partially remove the etching mask of Nishio because Cole teaches that patterns with very high resolutions can be obtained (column 6, line 48).

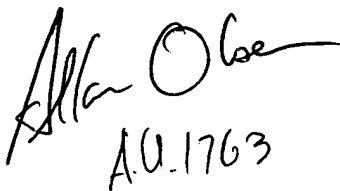
### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is 703-306-9075. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Mills, can be reached on 703-308-1633.

The examiner's Right-Fax (direct to desktop) phone number is 703-872-9684. Alternatively, the general fax numbers for TC1700 are 703-872-9310 (non-after finals) and 703-872-9311(after-final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Allan Olsen, Ph.D.  
November 1, 2002



A.U.1763